

Skids to ship Mar 14

Work Order ID 141671

141671

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February 08, 2016 4:00:48 PM

Item ID: D2918-2 Accept *N9000040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Saddle RH
 Start Date: 2/8/2016 Start Qty: 100 *1* Cust Item ID:
 Required Date: 2/22/2016 Req'd Qty: 100 *1* Customer:
 Reference:

Approvals: Process Plan: SK Date: 0160209 Tooling: Date:
 QC: Date: SPC (Y/N): Date:
 Run Start *NR1*
 Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2918	Rev B								

100		0.00				4	0	DAS 20 9-89	16-03-09
100	HAAS CNC VERTICAL MACHINING #1								
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	Program batch number Machine Step No 1 as per Folio FA440 and visually inspect as per Dwg D2918 & attached Dimension Sheet Machine Step No 2 as per Folio FA440 and visually inspect as per Dwg D2918 & attached Dimension Sheet Machine Step No 3 as per Folio								
110		0.00				4	0	DAS 20 9-89	16-03-09
110	CONVENTIONAL MILLING MACHINE								
Mill Conv	Memo	0.00							
Conventional Milling Machine	Machine Keyway and inspect per Dwg D2918 & attached dimension sheet								
120		0.00				4	0	DAS 20 9-89	16-03-09
120	QC2- Inspect parts off machine FAI/FAIB								
QC	Memo	0.00							
Quality Control									

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

Work Order ID 141671

February 08, 2016 4:00:48 PM

141671

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Item ID: D2918-2 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Saddle RH
Start Date: 2/8/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 2/22/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00	B.a	16/03/09		4	0		DAS 08 9-89
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00				4	0		16-3-10 JL
150 *150* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum m 133962 Memo START TIME: 9:00 OVEN TEMPERATURE: FINISH TIME: 9:00	0.00 0.00				4	0		16-03-14 DAS 34 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					

Root Cause		FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Work Order ID 141671***141671***

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February 08, 2016 4:00:49 PM

Item ID: D2918-2 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Saddle RH
Start Date: 2/8/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 2/22/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC3- Inspect Part Finish	0.00							
160									DAS
QC	Memo	0.00				(4)			38
Quality Control									9-89
									MAR 14 2016
170	Identify as per dwg & Stock Location: <u>SK406</u>	0.00							
170									
Packaging	Memo	0.00				7			DAS
Packaging									6
									9-89
									MAR 15 2016
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.00							
Quality Control									16/1/15

MCW MAR 15 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
		OTHER : ☐							

Picklist Print

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Work Order ID: 141671

141671

Parent Item: D2918-2

D2918-2

Parent Item Name: Saddle RH

Start Date: 2/8/2016

Required Date: 2/22/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP: A04.07.16New IssueKJ/JLM
IPP B 07.08.07 ECN930 EC verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6102-011 *D6102-011* Saddle Billet		Manufactured	No			100	Each	9.0000	1	1		DAS 20 9-89	16-02-25
									**	4			

Location

Loc Qty

Loc Code

MAT040

9

75834

9

4

D6102-011RevD

Manufactured

No

100

Each

0.0000

1

1

~~***D6102-011RevD***~~

Saddle Billet

**

PLA
u

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

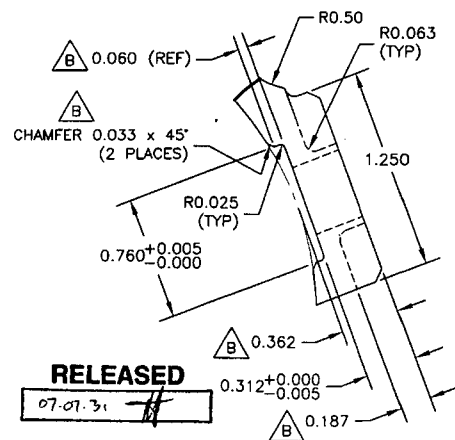
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							



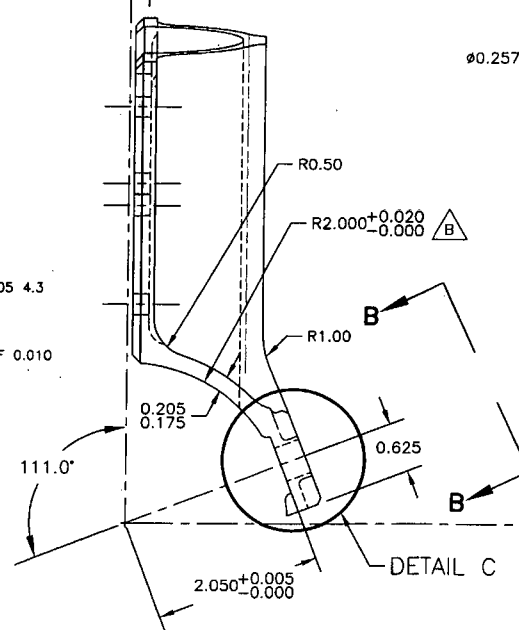
NOTES:

- 1) MATERIAL: ALUMINUM 6061-T6/T651 PER QQ-A-250/11
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) BREAK ALL SHARP EDGES 0.010 TO 0.020
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010
- 7) ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD 0.125

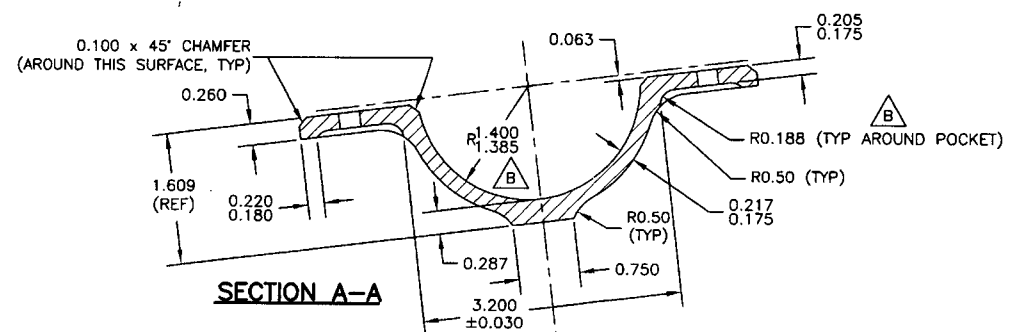


RELEASED

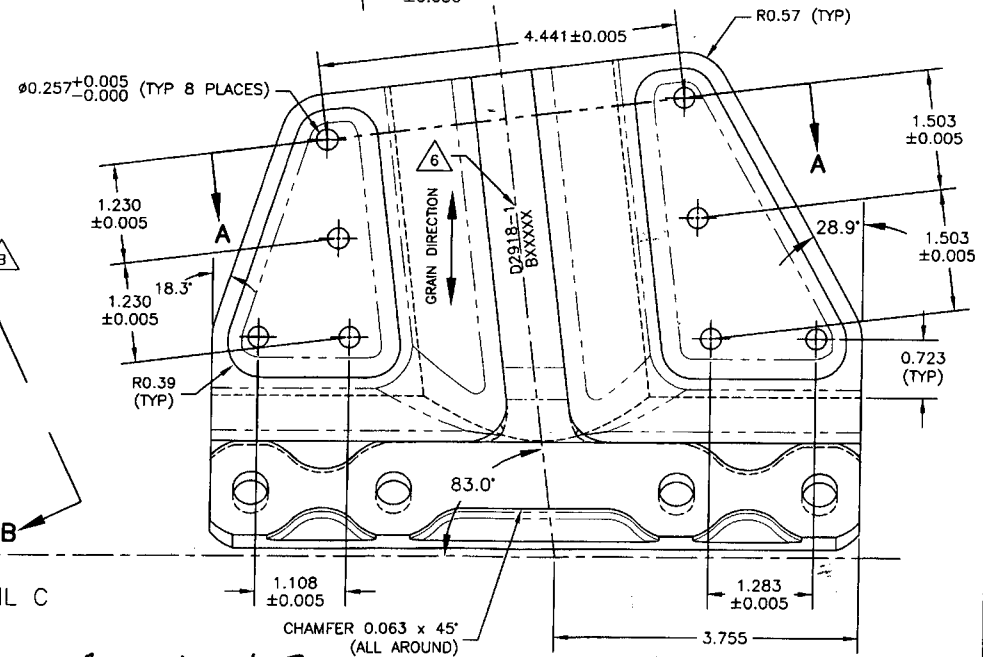
07-07-31



DETAIL C 
SCALE 4:3



SECTION A-A



Sub 14167
20160205

B	07.02.19	ADD: 0.362, 0.187, 0.060, CHAMFER; ADD DETAIL C; R0.188 WAS R0.30; ADD TOL TO R2.000; ADD NOTES	
A	04.05.31	NEW ISSUE	
DESIGN 9P	DRAWN BY CB	 DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA	REV. B
CHECKED PH	APPROVED H	DRAWING NO. D2918	SHEET 1 OF 1
DATE 07.02.19		TITLE SADDLE	SCALE 2:3

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DART AEROSPACE LTD.

DART AEROSPACE LTD		Work Order:	141671
Description: Saddle RH		Part Number:	D2918-2
Inspection Dwg: D2918 Rev. B		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
A	0.090	0.110		.094	.096	.095	.095		
B	0.175	0.205		.191	.188	.187	.188		
C	0.175	0.217		.196	.196	.201	.200		
D	R0.470	0.530		.500	.500	.500	.500		
E	0.740	0.760		.760	.760	.760	.760		
F	0.277	0.297		.286	.283	.280	.284		
G	3.170	3.230		3.200	3.200	3.200	3.200		
H	0.180	0.220		.180	.180	.180	.180		
I	1.599	1.614		1.612	1.609	1.606	1.605		
J	0.250	0.270		.260	.258	.257	.258		
K	4.436	4.446		4.441	4.441	4.441	4.441		
L	1.498	1.508		1.503	1.503	1.503	1.503		
M	1.278	1.288		1.283	1.283	1.283	1.283		
N	0.053	0.073		.064	.064	.064	.064		
O	1.103	1.113		1.108	1.108	1.108	1.108		
P	1.225	1.235		1.230	1.230	1.230	1.230		
Q	0.257	0.262		.258	.258	.258	.258		
R	2.000	2.020		2.0012	2.002	2.0005	2.0025		
S	1.385	1.400		1.3876	1.3875	1.3855	1.3875		
T	0.760	0.765		.760	.760	.760	.760		
U	0.307	0.312		.311	.311	.311	.311		
V	0.615	0.635		.625	.625	.625	.625		
W	0.438	0.443		.440	.440	.440	.440		
X	0.490	0.510		.504	.500	.502	.501		
Y	1.745	1.755		1.750	1.750	1.750	1.750		
Z	3.495	3.505		3.500	3.500	3.500	3.500		
AA	7.990	8.010		8.000	8.000	8.000	8.000		
AB	0.023	0.043		.033	.033	.033	.033		
AC	0.178	0.198		.188	.188	.188	.188		
AD									
AE									
AF									
AG									
AH									
Accept/Reject _{DAS}									

Measured by:	20 9-80
Date:	16-02-26

Audited by:	D.A.	DAS
Date:	16/03/09	08 9-89

Rev	Date	Change	Revised by	Approved
A	04.08.12	New Issue	KJ/JLM	
B	04.09.20	Added DT8683 & DT8682	KJ/JLM	
C	08.11.27	Added dimension 'AB,AC', Revised Dimension 'R'	KJ/JLM	